



National Transportation Safety Board

Washington, DC 20594

August 20, 1997

1967 - 30 Years of Transportation Safety - 1997

Office of the Chairman

Honorable Bud Shuster
Chairman, Committee on Transportation
and Infrastructure
House of Representatives
Washington, D. C. 205150

Dear Chairman Shuster:

This is in response to your July 16, 1997, letter regarding my July 10, 1997, testimony before the Committee on Transportation and Infrastructure, Subcommittee on Aviation. You forwarded with your letter additional questions for the record regarding the National Transportation Safety Board's investigation of the accident involving TWA flight 800. Below are the Safety Board's responses to your questions.

1. Last year, it was reported that there was an unidentified sound at the end of the cockpit voice recorder tape. Has that sound been identified?

Response: At the end of the cockpit voice recorder (CVR) tape there is an abrupt, short duration noise that has not been identified. The sound has been compared to other sounds provided from CVR tapes that the Safety Board has collected from various accidents and incidents. The sound does not match any previously identified signatures, including bomb explosions. We have been conducting tests in the United Kingdom involving explosives on a retired Boeing 747 during which we are recording sounds to hopefully better understand the sound on the TWA 800 CVR tape. Further, the Safety Board continues to conduct a series of tests to determine the events that may have led to the accident. In each of the planned tests using a Boeing 747, sound data will be collected that might eventually help to identify the sound on the TWA flight 800 CVR tape.

2. It has been reported that tests have been conducted in which a missile was exploded near the fuselage of a plane to see if that could have set off the fuel tank explosion. Who conducted those tests? What have they revealed?

Response: The FBI and the Federal Aviation Administration (FAA) conducted tests with the assistance of Department of Defense organizations in which explosives and missile warheads were detonated near airplane fuselages. Those tests found that the damage to the test airplanes was significantly different than that found on the wreckage of TWA flight 800.

3. Lightning has caused planes to explode in the past. Can lightening occur even in the absence of a thunderstorm? Could that have occurred.

Response: Lightning or a static discharge can occur without the presence of a thunderstorm, depending on whether the atmosphere is turbulent or if there are significant temperature differentials present. An examination of the meteorological conditions at the time of the accident would indicate a low probability for the generation of an atmospheric static discharge. Additionally, the examination of the TWA flight 800 wreckage has found no indication of a lightning strike, or that the flame arrestors at the wing tips had been activated. While the Safety Board continues to consider such a possibility, at this time there is no evidence to support such a finding.

4. Is it true that a Navy P-3 flying without its transponder and "marking" the ocean with an infrared beam as part of an exercise with a submarine passed 10,000 feet above the TWA jet just before the explosion? What was the P-3 doing there? Could infrared or laser beams have set off the explosion?

Response: At the time of the accident, a Navy P-3 airplane was transiting the area at an altitude of 20,000 feet on its way to a military operating area to conduct a training exercise. The transponder on the airplane was functioning intermittently. However, the airplane's track can be clearly identified on radar data. At the time of the explosion, the P-3 was about 3 miles to the southwest of TWA flight 800. Shortly after being told by the air traffic controllers that TWA flight 800 was missing, the P-3 turned around and descended to assist in locating the airplane. Interviews with the crew of the P-3 indicate that they were not conducting military operations at the time of the accident, and turned on their infrared sensors after the accident to locate the airplane or survivors. There is no indication that the infrared sensors on the P-3 could have ignited the fuel/air vapors in the center fuel tank of TWA flight 800. The examination of the wreckage has not provided any evidence of radiation by a laser being a factor in the accident.

5. Is it true that at the time of the crash, three of several military restricted areas near Long Island were active? Who requested the use of the airspace? Were Naval maneuvers being conducted there?

Response: There were military operation areas several hundred miles from the accident site that were being used for Naval maneuvers. These maneuvers were being conducted well outside the airspace being used for commercial flights. The Navy maneuvers included training exercises to detect and track submarines. In the time frame of this accident, the closest area in use was designated as ALTRV "Tango Billy." Its closest point was about 50 - 60 miles south of the accident site. The Navy P-3 airplane was en route to this block of airspace when the accident occurred.

6. Have French investigators been permitted to participate in the investigation?

Response: Representatives from the Bureau Enquetes-Accidents (BEA) of France have been present from the beginning of the Safety Board's investigation, will receive copies of all factual reports, and have been invited to attend all of the significant tests and meetings associated with the investigation.

7. Does the military sometimes practice by locking missile systems onto commercial aircraft but then not actually firing a missile?

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Response: The Safety Board understands that in the past military airplanes have practiced intercept maneuvers using unaware commercial airplanes. These maneuvers were usually accomplished in visual conditions. The Safety Board is unaware of any case where a missile weapon system was locked onto a commercial airplane.

8. Were all the aircraft engines intact when brought up? If not, how much of them was missing.

Response: The engines were substantially damaged by impact with the water. However, all of the major engine assemblies were recovered. Examination of the engines revealed no evidence of a pre-impact failure or external forces. Additionally, the data provided by the CVR and FDR indicate that the engines were functioning normally from takeoff until the accident.

9. Could you please comment on the theory of Bob Riordan of Dallas, Texas, copy attached that a fatigue crack exposing wires led to the explosion.

Response: Because of the age of the airplane and previous reports of fatigue cracks in the forward sections of other Boeing 747s, the Safety Board was concerned about the possibility of a structural failure as a factor in the accident. Examination by Safety Board metallurgists of all the fracture surfaces indicates that there is no evidence of preexisting fatigue damage that would have been a factor in the accident.

10. Have all possessions of the victims been returned to their families?

Response: All of the families receiving personal effects that have been associated to their family member have been contacted, and almost all of those have received the personal effects. A few remaining families have told the TWA third party representative that they are not emotionally ready to receive the belongings of their loved one. In early July, the process for returning personal effects that could not be associated to a specific victim was started by TWA and its contractor. A catalogue with approximately 1,500 photographs is being sent to those family members who have requested to see it.

I trust the above is responsive. Please do not hesitate to contact me at any time in the future if you require additional information regarding the Safety Board's investigation of this accident.

Sincerely,



Jim Hall
Chairman